

1

## SEQUENCE LISTING

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			ccc Pro 100														393
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a I	att [le	caa Gln	aga Arg 260	ccc Pro	tgc Cys	aga Arg	Lys	tca Ser 265	gtc Val	aac Asn	aag Lys	atg Met	ctg Leu 270	ttt Phe	gtc Val	ttg Leu	873
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		agc Ser														969
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gtc Val	aac Asn	ccc Pro	att Ile 325	atc Ile	tat Tyr	aac Asn	cta Leu	ctg Leu 330	tct Ser	cgc Arg	cgc Arg	ttc Phe	cag Gln 335	gca Ala	gca Ala	1065
		aat Asn 340														1113
		cag Gln														1161
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Leu Phe Phe Ser Phe Val Glu Glu Trp Ser Glu Ser Leu Ala Ala Val

300

295

290

Phe Asn Leu Val His Val Val Ser Gly Val Phe Phe Tyr Leu Ser Ser

305	310		315	320
Ala Val Asn Pr	o Ile Ile Ty 325	r Asn Leu Leu 330	Ser Arg Arg Phe Gl	
Ala Phe Gln As		r Ser Phe His 345	Lys Gln Trp His Se 350	r Gln
His Asp Pro Gla 355	n Leu Pro Pr	o Ala Gln Arg 360	Asn Ile Phe Leu Th 365	r Glu
Cys His Phe Va	l Glu Leu Th 37		Gly Pro Gln Phe Pr 380	o Cys
Gln Ser Ser Met 385	t His Asn Se 390	r His Leu Pro	Thr Ala Leu Ser Se 395	r Glu 400
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gaa gat cca tto Glu Asp Pro Phe	c cag aaa cad c Gln Lys His 20	c ctg aac agc s Leu Asn Ser 25	acc gag gag tat ct Thr Glu Glu Tyr Le 3	g gcc 156 u Ala 0
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gtg tat gtg cca Val Tyr Val Pro 50	att ttt gto Ile Phe Val	g gtg ggg gtc l Val Gly Val 55	att ggc aat gtc ct Ile Gly Asn Val Le 60	g gtg 252 u Val

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e e

tgc Cys	ctg Leu 65	gtg Val	att Ile	ctg Leu	cag Gln	cac His 70	cag Gln	gct Ala	atg Met	aag Lys	acg Thr 75	ccc Pro	acc Thr	aac Asn	tac Tyr	300
			agc Ser													348
			gag Glu												Phe	396
ggg Gly	ccc Pro	gtg Val	ggc Gly 115	tgc Cys	tac Tyr	ttc Phe	aag Lys	acg Thr 120	gcc Ala	ctc Leu	ttt Phe	gag Glu	acc Thr 125	gtg Val	tgc Cys	444
ttc Phe	gcc Ala	tcc Ser 130	atc Ile	ctc Leu	agc Ser	atc Ile	acc Thr 135	acc Thr	gtc Val	agc Ser	gtg Val	gag Glu 140	cgc Arg	tac Tyr	gtg Val	492
Ala	11e 145	Leu	cac His	Pro	Phe	Arg 150	Ala	Lys	Leu	Gln	Ser 155	Thr	Arg	Arg	Arg	540
Ala 160	Leu	Arg	atc Ile	Leu	Gly 165	Ile	Val	Trp	Gly	Phe 170	Ser	Val	Leu	Phe	Ser 175	588
Leu	Pro	Asn	acc Thr	Ser 180	Ile	His	Gly	Ile	Lys 185	Phe	His	Tyr	Phe	Pro 190	Asn	636
Gly	Ser	Leu	gtc Val 195	Pro	Gly	Ser	Ala	Thr 200	Cys	Thr	Val	Ile	Lys 205	Pro	Met	684
Trp	Ile	Tyr 210	aat Asn	Phe	Ile	Ile	Gln 215	Val	Thr	Ser	Phe	Leu 220	Phe	Tyr	Leu	732
Leu	Pro 225	Met	act Thr	Val	Ile	Ser 230	Val	Leu	Tyr	Tyr	Leu 235	Met	Ala	Leu	Arg	780
Leu 240	Lys	Lys	gac Asp	Lys	Ser 245	Leu	Glu	Ala	Asp	Glu 250	Gly	Asn	Āla	Asn	Ile 255	828
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ctc gtc cat gtg Leu Val His Val 305		/ Val Phe P		Ser Ser Al	
aac ccc att atc Asn Pro Ile Ile 320					
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cca cag ttg cca Pro Gln Leu Pro 355	Pro Ala Gli				
ttt gtg gag ctg Phe Val Glu Leu 370					
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<213> Homo sapiens

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Leu Cys Gly Pro Arg Arg Ser His Phe Phe Leu Pro Val Ser Val Val
35 40 45

Tyr Val Pro Ile Phe Val Val Gly Val Ile Gly Asn Val Leu Val Cys
50 55 60

Leu Val Ile Leu Gln His Gln Ala Met Lys Thr Pro Thr Asn Tyr Tyr 65 70 75 80

Leu Phe Ser Leu Ala Val Ser Asp Leu Leu Val Leu Leu Gly Met
85 90 95

Pro Leu Glu Val Tyr Glu Met Trp Arg Asn Tyr Pro Phe Leu Phe Gly
100 105 110

Pro Val Gly Cys Tyr Phe Lys Thr Ala Leu Phe Glu Thr Val Cys Phe 115 120 125

Ala Ser Ile Leu Ser Ile Thr Thr Val Ser Val Glu Arg Tyr Val Ala 130 135 140

Ile Leu His Pro Phe Arg Ala Lys Leu Gln Ser Thr Arg Arg Ala 145 150 155 160

Leu Arg Ile Leu Gly Ile Val Trp Gly Phe Ser Val Leu Phe Ser Leu
165 170 175

Pro Asn Thr Ser Ile His Gly Ile Lys Phe His Tyr Phe Pro Asn Gly 180 185 190

Ser Leu Val Pro Gly Ser Ala Thr Cys Thr Val Ile Lys Pro Met Trp 195 200 205

Ile Tyr Asn Phe Ile Ile Gln Val Thr Ser Phe Leu Phe Tyr Leu Leu 210 215 220

Pro Met Thr Val Ile Ser Val Leu Tyr Tyr Leu Met Ala Leu Arg Leu 225 230 235 240

Lys Lys Asp Lys Ser Leu Glu Ala Asp Glu Gly Asn Ala Asn Ile Gln
245 250 255

Arg Pro Cys Arg Lys Ser Val Asn Lys Met Leu Phe Val Leu Val Leu 260 265 270

Val Phe Ala Ile Cys Trp Ala Pro Phe His Ile Asp Arg Leu Phe Phe 275 280 285

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Val 305		Val	Val	Ser	Gly 310	Val	Phe	Phe	Tyr	Leu 315	Ser	Ser	Ala	Val	Asn 320	
Pro	Ile	Ile	Tyr	Asn 325	Leu	Leu	Ser	Arg	Arg 330	Phe	Gln	Ala	Ala	Phe 335	Gln	
Asn	Val	Ile	Ser 340	Ser	Phe	His	Lys	Gln 345	Trp	His	Ser	Gln	His 350	Asp	Pro	
Gln	Leu	Pro 355	Pro	Ala	Gln	Arg	Asn 360	Ile	Phe	Leu	Thr	Glu 365	Сув	His	Phe	
Val	Glu 370	Leu	Thr	Glu	Asp	Ile 375	Gly	Pro	Gln	Phe	Pro 380	Cys	Gln	Ser	Ser	
Met 385	His	Asn	Ser	His	Leu 390	Pro	Thr	Ala	Leu	Ser 395	Ser	Glu	Gln	Met	Ser 400	
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Val		gtg Val														921
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<210> 6

<211> 415

<212> PRT

<213> Homo sapiens

<400> 6

Met Ser Gly Met Glu Lys Leu Gln Asn Ala Ser Trp Ile Tyr Gln Gln 1 5 15

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Ser Val Val Tyr Val Pro Ile Phe Val Val Gly Val Ile Gly Asn Val 50 55 60

Leu Val Cys Leu Val Ile Leu Gln His Gln Ala Met Lys Thr Pro Thr 65 70 75 80

Asn Tyr Tyr Leu Phe Ser Leu Ala Val Ser Asp Leu Leu Leu 85 90 95

Leu Gly Met Pro Leu Glu Val Tyr Glu Met Trp Arg Asn Tyr Pro Phe
100 105 110

Leu Phe Gly Pro Val Gly Cys Tyr Phe Lys Thr Ala Leu Phe Glu Thr 115 120 125

Val Cys Phe Ala Ser Ile Leu Ser Ile Thr Thr Val Ser Val Glu Arg 130 135 140

Tyr Val Ala Ile Leu His Pro Phe Arg Ala Lys Leu Gln Ser Thr Arg 145 150 155 160

Arg Arg Ala Leu Arg Ile Leu Gly Ile Val Trp Gly Phe Ser Val Leu
165 170 175

Phe Ser Leu Pro Asn Thr Ser Ile His Gly Ile Lys Phe His Tyr Phe 180 185 190

Pro Asn Gly Ser Leu Val Pro Gly Ser Ala Thr Cys Thr Val Ile Lys 195 200 205

Pro Met Trp Ile Tyr Asn Phe Ile Ile Gln Val Thr Ser Phe Leu Phe 210 215 220

Tyr Leu Leu Pro Met Thr Val Ile Ser Val Leu Tyr Tyr Leu Met Ala 225 230 235 240

Leu Arg Leu Lys Lys Asp Lys Ser Leu Glu Ala Asp Glu Gly Asn Ala 245 250 255

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Leu	Val	Leu 275	Val	Phe	Ala	Ile	Cys 280	Trp	Ala	Pro	Phe	His 285	Ile	Asp	Arg	
Leu	Phe 290	Phe	Ser	Phe	Val	Glu 295	Glu	Trp	Thr	Glu	Ser 300	Leu	Ala	Ala	Val	
Phe 305	Asn	Leu	Val	His	Val 310	Val	Ser	Gly	Val	Leu 315	Phe	Tyr	Leu		Ser 320	
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- Ser Val Val Tyr Val Pro Ile Phe Val Val Gly Val Ile Gly Asn Val 50 55 60
- Leu Val Cys Leu Val Ile Leu Gln His Gln Ala Met Lys Thr Pro Thr 65 70 75 80
- Asn Tyr Tyr Leu Phe Ser Leu Ala Val Ser Asp Leu Leu Val Leu Leu 85 90 95
- Leu Gly Met Pro Leu Glu Val Tyr Glu Met Trp Arg Asn Tyr Pro Phe 100 105 110
- Leu Phe Gly Pro Val Gly Cys Tyr Phe Lys Thr Ala Leu Phe Glu Thr 115 120 125
- Val Cys Phe Ala Ser Ile Leu Ser Ile Thr Thr Val Ser Val Glu Arg 130 135 140
- Tyr Val Ala Ile Leu His Pro Phe Arg Ala Lys Leu Gln Ser Thr Arg 145 150 155 160
- Arg Arg Ala Leu Arg Ile Leu Gly Ile Val Trp Gly Phe Ser Val Leu 165 170 175
- Phe Ser Leu Pro Asn Thr Ser Ile His Gly Ile Lys Phe His Tyr Phe 180 180 190
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- Pro Met Trp Ile Tyr Asn Phe Ile Ile Gln Val Thr Ser Phe Leu Phe 210 215 220
- Tyr Leu Leu Pro Met Thr Val Ile Ser Val Leu Tyr Tyr Leu Met Ala 225 230 235 240
- Leu Arg Leu Lys Lys Asp Lys Ser Leu Glu Ala Asp Glu Gly Asn Ala
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Val Tyr Val Pro Ile Phe Val Val Gly Val Ile Gly Asn Val Leu Val
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Phe Ala Ser Ile Leu Ser Ile Thr Thr Val Ser Val Glu Arg Tyr Val
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Tyr Val Pro Ile Phe Val Val Gly Val Ile Gly Asn Val Leu Val Cys
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Ile Leu His Pro Phe Arg Ala Lys Leu Gln Ser Thr Arg Arg Arg Ala 145 150 155 160

Leu Arg Ile Leu Gly Ile Val Trp Gly Phe Ser Val Leu Phe Ser Leu 165 170 175

Pro Asn Thr Ser Ile His Gly Ile Lys Phe His Tyr Phe Pro Asn Gly 180 185 190

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<223> Description of Artificial Sequence: Degenerated
      primer
<220>
<221> modified_base
<222> (21)
<223> a, c, g or t
<220>
<221> modified_base
<222> (24)
<223> a, c, g or t
<400> 13
ctcatcttcg cggtgggcrc ngyngg
                                                                    26
<210> 14
<211> 31
<212> DNA
<213> Artificial Sequence
<223> Description of Artificial Sequence: Degenerated
     primer
<220>
<221> modified_base
<222> (22)
<223> c or Inosine
```

```
<220>
<221> modified_base
<222> (25)
<223> a, c, g or t
<220>
<221> modified_base
<222> (28)
<223> a, c, g or t
<400> 14
ggccaggcag cgctccgcgc tnarncyngc d
                                                                    31
<210> 15
<211> 22
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Degenerated
      primer
<400> 15
gaartartag ccrcgrcagc cw
                                                                    22
<210> 16
<211> 27
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Synthetic
      primer
<400> 16
ccatcctaat acgactcact atagggc
                                                                    27
<210> 17
<211> 23
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Synthetic
      primer
<400> 17
actcactata gggctcgagc ggc
                                                                    23
```

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<210> 18
<211> 27
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Synthetic
      primer
<400> 18
ggatcccaaa taagaaaggg tagttgc
                                                                    27
<210> 19
<211> 29
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Synthetic
      primer
<400> 19
aaagggtagt tgcgccacat ctcatagac
                                                                    29
<210> 20
<211> 29
<212> DNA
<213> Artificial Sequence
<223> Description of Artificial Sequence: Synthetic
      primer
<400> 20
aggtctatga gatgtggcgc aactaccct
                                                                    29
<210> 21
<211> 30
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Synthetic
      primer
<400> 21
atgtggcgca actacccttt cttatttggg
                                                                    30
```

```
<210> 22
<211> 26
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Degenerated
      primer
<400> 22
cggaagttgg cggacacgrv rttrta
                                                                    26
<210> 23
<211> 27
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Synthetic
      primer
<400> 23
gctcagcttg aaacagagcc tcgtacc
                                                                    27
<210> 24
<211> 27
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Synthetic
      primer
<400> 24
ccatgtggat ctacaatttc atcatcc
                                                                    27
<210> 25
<211> 29
<212> DNA
<213> Artificial Sequence
<223> Description of Artificial Sequence: Synthetic
      primer
<400> 25
aagacaaatc tcttgaggca gatgaaggg
                                                                    29
```

```
<210> 26
<211> 30
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Synthetic
      primer
<400> 26
gatgctgttt gtcttggtct tagtgtttgc
                                                                    30
<210> 27
<211> 29
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Synthetic
      primer
<400> 27
ggatgatgaa attgtagatc cacatgggc
                                                                    29
<210> 28
<211> 25
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Synthetic
      primer
<400> 28
tgtggagaag tctctcaaag tgtgg
                                                                    25
<210> 29
<211> 29
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Synthetic
      primer
<400> 29
tagtaggagt gacagcctga ctcggaacg
                                                                    29
```

```
<210> 30
<211> 30
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Synthetic
      primer
<400> 30
aacgtagatg actcaggacg aaccatttcc
                                                                    30
<210> 31
<211> 22
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Synthetic
      primer
<400> 31
tcgtaccagg ggaggctcag gc
                                                                    22
<210> 32
<211> 23
<212> DNA
<213> Artificial Sequence
<223> Description of Artificial Sequence: Synthetic
      primer
<400> 32
cctcttcagc ctggcggtct ctg
                                                                    23
<210> 33
<211> 22
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Synthetic
      primer
<400> 33
ggaggcgaag cacacggtct ca
                                                                    22
```

```
<210> 34
<211> 34
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Synthetic
      primer
<220>
<221> misc_binding
<222> (1)
<223> Labeled with 6-carboxyfluorescein
<220>
<221> misc_binding
<222> (34)
<223> Labeled with
      N, N, N', N'-tetramethyl-6-carboxyrhodamin
<400> 34
agatgtggcg caactaccct ttcttgttcg ggcc
<210> 35
<211> 7
<212> PRT
<213> Unknown Organism
<220>
<223> Description of Unknown Organism: Illustrative
      mammalian C-terminal sequence
<220>
<223> C-term amidated
<400> 35
Phe Leu Phe Arg Pro Arg Asn
 1
                  5
```

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